ACTA ARACHNOL., XXVII, (1), 1976

ON ASIAN *PRODIDOMUS* (ARANEAE, GNAPHOSIDAE)

Norman I. PLATNICK

Department of Entomology, The American Museum of Natural History
New York, New York 10024 U.S.A.

Synopsis

PLATNICK, Norman I. (Department of Entomology, The American Museum of Natural History, New York): On Asian *Prodidomus* (Araneae, Gnaphosidae). *Acta Arachnol.*, 27: 37-42.

The Japanese spider *Prodidomus imaidzumii* KISHIDA is redescribed and two new species, *P. margala* from Pakistan and *P. sirohi* from northern India, are described.

The spider genus *Prodidomus* and its relatives are widespread (although notably absent from Europe, Australia, and New Zealand) but extremely rare in collections. The group has usually been placed as a separate family Prodidomidae, but it has been argued elsewhere (PLATNICK and SHADAB, 1976) that it is cladistically a member of the Gnaphosidae and is closely related to the Anagraphinae and, more distantly, the Molycriinae and Echeminae.

The existence of a prodidomine spider in Japan was first noted by KISHIDA (1914), who presented a dorsal view of a species he named *Prodidomus imaidzumii* but did not describe; the publication, prior to 1931, of an illustration in conjunction with a new specific name is considered a sufficient indication to validate the name (International Code of Zoological Nomenclature, Article 16a-vii). The status of this form was further confused by KISHIDA's (1959) use of the new generic name *Iyoa*, which was also not accompanied by a description and is a *nomen nudum*. The existence of the Japanese species was revealed to western arachnologists through the works of YAGINUMA (1960, 1962), but COOKE (1964) had to conclude that the "status of this species is somewhat problematical".

Through the courtesy of Dr. Takeo YAGINUMA, I have recently had the opportunity to study specimens of the species. Both the acuminate endites (Fig. 1) and the structure of the epigynum (Figs. 2, 3) of the Japanese species indicate that it is very closely related to the North American type species,

Prodidomus rufus HENTZ (Figs. 4, 5), and that there is no justification for regarding the form as generically distinct.

I am also indebted to Dr. YAGINUMA for translations of Japanese texts, and to Drs. H. W. LEVI of the Museum of Comparative Zoology, Harvard University, and D. C. RENTZ of the California Academy of Sciences for the loan of specimens. The illustrations are by Dr. M. U. SHADAB.

Prodidomus imaidzumi KISHIDA

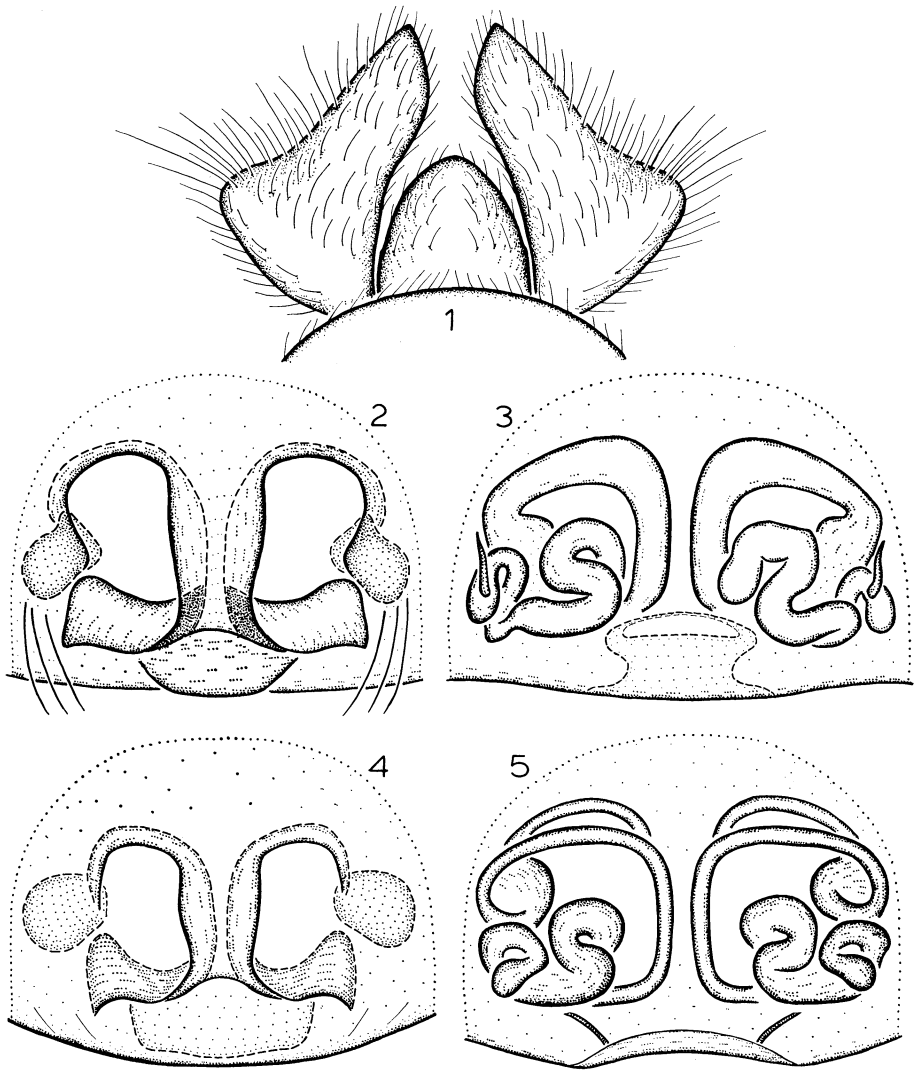
(Figs. 1-3)

Prodidomus imaidzumii KISHIDA, 1914, p. 36 (female holotype from Iyo, Ehime Prefecture, Shikoku, Japan, lost); YAGINUMA, 1960, p. 117, pl. 53, fig. 97; 1962, p. 49; COOKE, 1964, p. 265.
Iyoa imaidzumii: KISHIDA, 1959, p. 374.

Diagnosis: *Prodidomus imaidzumii* is similar to *P. rufus* but may be distinguished by the narrower basal plate at the posterior edge of the epigynum (Fig. 2) and the wider anterior spermathecal ducts (Fig. 3).

Male: Unknown.

Female: Total length, not including chelicerae, 5.65 mm. Carapace 1.48 mm. long, 1.30 mm. wide, rectangular in dorsal view, widest between coxae II and III, with ocular area only slightly narrowed, orange, with center lightest and border slightly darkened, coated with dark recumbent setae, with distinct anterior row of long, inwardly curved clypeal setae. Cephalic area not elevated; thoracic groove obliterated. From above, anterior eye row slightly recurved, posterior row strongly procurved; anterior row slightly wider than posterior. Anterior median eyes circular, dark; other eyes oval, light. Posterior lateral eyes largest. Anterior median eyes separated by almost their diameter, by their radius from anterior laterals. Posterior median eyes separated by one and one-half times their diameter, nearly contiguous with posterior laterals. Lateral eyes of each side nearly contiguous. Median ocular quadrangle wider in back than in front and than long. Clypeal height slightly less than anterior median eye diameter. Chelicerae orange with fangs dark brown at base, protruding forward distance equal to one-fourth of carapace length, broadly divergent, without teeth. Endites orange with white distal tips, long, wide, convergent, sharply pointed distally (Fig. 1), with weak distal serrulae. Labium dark orange, wider than long, triangular, sharply rounded distally. Sternum



Figs. 1-5. 1-3. *Prodidomus imaidzumii* KISHIDA. 1. Labium and endites, ventral view. 2. Epigynum, ventral view. 3. Vulva, dorsal view. 4, 5. *P. rufus* HENTZ. 4. Epigynum, ventral view. 5. Vulva, dorsal view.

orange with dark border, long, produced anteriorly at middle, not protruding between coxae IV, with sclerotized extensions to coxae and tufts of intercoxal setae. Leg formula 4123; femur II 1.03 mm. long; legs orange with proximal segments darkest. Anterior legs without spines; posterior tibiae and metatarsi

each with pair of apical ventral spines. Tarsi with two smooth claws and claw tufts, with light scopulae. Metatarsal preening comb lacking; trochanters unnotched, trochanter IV elongated. Abdomen reddish brown with narrow light posterior chevrons, coated with short brown setae. Anterior spinnerets widened, separated by their width, bearing densely packed spigots and distinct ventral tubule; median spinnerets short, sharply pointed; posterior spinnerets long, curving downward between anterior pair. Epigynum with wide sinuous midpiece attached to posterior ridge forming ledge-like platform (Fig. 2). Anterior spermathecal ducts broad, covering outline of anterior epigynal arches in ventral view (Fig. 3).

Material Examined: JAPAN: *Honshu:* Wakayama Pref.: Shirahama (December 29, 1969; H. MINATO), 1♀. *Kyushu:* Miyazaki Pref.: Miyazaki City (August 6, 1959; I. KAYASHIMA), 1♀.

Distribution: Honshu Kyushu, and Shikoku, Japan.

Prodidomus margala, new species

(Figs. 6, 7)

Type: Female holotype from Margala Pass, elevation 625 m., near Taxila, Punjab, Pakistan (December 17, 1961; E. S. ROSS and D. Q. CAVAGNARO), deposited in the California Academy of Sciences.

Etymology: The specific name is a noun in apposition taken from the type locality.

Diagnosis: *Prodidomus margala* seems closest to *P. birmanicus* THORELL from Mandalay, Burma, the epigynum of which has been illustrated by COOKE (1964, Fig. 23). The former species can be distinguished by the wing-like basal epigynal ducts visible in ventral view and the absence of distinct lobes at the base of the epigynal midpiece (Fig. 6). *Prodidomus papavanasanemensis* COOKE (1972, Fig. 4) from southern India has an epigynum superficially similar to *P. margala* but very different spermathecae.

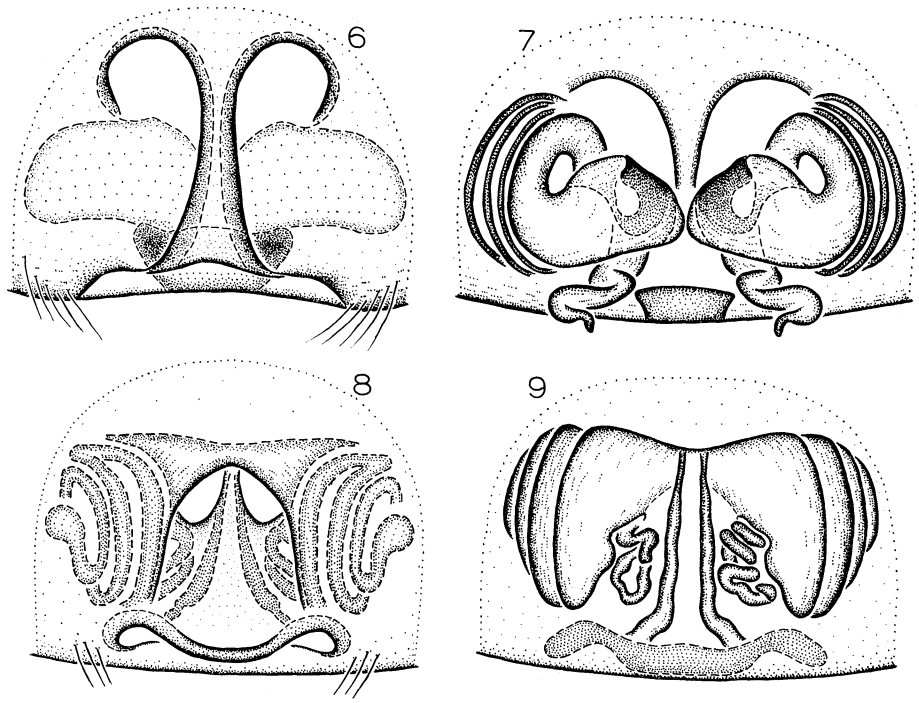
Male: Unknown.

Female: As in *P. imaidzumii* except for the following: Total length, not including chelicerae, 3.78 mm. Carapace 1.50 mm. long, 1.19 mm. wide. Posterior median eyes separated by their diameter. Cheliceae only slightly divergent, projecting forward distance equal to one-sixth of carapace length. Endites less convergent, more broadly rounded distally than in Fig. 1. Femur II 1.15 mm.

long. Posterior tibiae with single apical ventral spine. Epigynum with narrow midpiece attached to elevated posterior rim (Fig. 6). Spermathecae wide, with twisted posterior and coiled lateral ducts (Fig. 7).

Material Examined: One female taken with the holotype.

Distribution: Punjab, Pakistan.



Figs. 6-9. 6, 7. *Prodidomus margala*, new species. 6. Epigynum, ventral view. 7. Vulva, dorsal view. 8, 9. *P. sirohi*, new species. 8. Epigynum, ventral view. 9. Vulva, dorsal view.

Prodidomus sirohi, new species

(Figs. 8, 9)

Type: Female holotype from 3 miles southeast of Sirohi, elevation 450 m., Rajasthan, India (January 9, 1962; E. S. ROSS and D. Q. CAVAGNARO), deposited in the California Academy of Sciences.

Etymology: The specific name is a noun in apposition taken from the type locality.

Diagnosis: *Prodidomus sirohi* is a distinctive species easily recognized by the single anterior arch-shaped epigynal ridge (Fig. 8) and broadly coiled spermathecae (Fig. 9).

Male: Unknown.

Female: As in *P. imaidzumii* except for the following: Total length, not including chelicerae, 4.78 mm. Carapace 1.84 mm. long, 1.55 mm. wide, brown, coated with white recumbent setae. Posterior median eyes separated by their diameter. Chelicerae only slightly divergent. Endites less convergent, more broadly rounded distally than in Fig. 1. Femur II 1.58 mm. long. Tibia IV with single apical ventral spine. Epigynum with arch-shaped anterior and sinuous posterior ridges (Fig. 8). Spermathecae wider anteriorly than posteriorly, with narrow median ane wide, coiled lateral ducts (Fig. 9).

Material Examined: One female taken with the holotype and one penultimate female with well-developed subcuticular epigynum from 3 miles north of Kodarma, elevation 440 m., Bihar, India (November 12, 1961; E. S. ROSS and D. Q. CAVAGNARO), deposited in the California Academy of Sciences.

Distribution: Northern India.

References

COOKE, J. A. L., 1964. A revisionary study of some spiders of the rare family Prodidomidae. *Proc. Zool. Soc. London*, **142**: 257-305.

COOKE, J. A. L., 1972. Four new species of *Prodidomus* (Araneae: Prodidomidae) from South India. *Jour. New York Ent. Soc.*, **80**: 129-136.

KISHIDA, K., 1914. Japanese spiders (12). *Kagaku-sekai* (*The world of science*), **8**: 36.

KISHIDA, K., 1959. Arachnida. *In* OKADA, Y., An annotated list of the animals of Okinawa Islands. *Okinawa Biol. Educ. Res. Assoc.*, **6**: 367-384.

PLATNICK, N. I. and M. U. SHADAB, 1976. A revision of the spider genera *Lygromma* and *Neozimiris* (Araneae, Gnaphosidae). *Amer. Mus. Novitates*, 2598: 1-23.

YAGINUMA, T., 1960. Spiders of Japan in Colour. Osaka.

YAGINUMA, T., 1962. The spider fauna of Japan. Osaka.